



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/726,349	12/02/2003	Toshio Takahashi	9281-4716	9007

7590 05/23/2005

Brinks Hofer Gilson & Lione  
P.O. Box 10395  
Chicago, IL 60610

EXAMINER
----------

JONES, STEPHEN E

ART UNIT	PAPER NUMBER
----------	--------------

2817

DATE MAILED: 05/23/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Ak

**Office Action Summary**

Application No.

10/726,349

Applicant(s)

TAKAHASHI ET AL.

Examiner

Stephen E. Jones

Art Unit

2817

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-18 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-18 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |  |
|--|--|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. ____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)            |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>12/2/03</u> . | 6) <input type="checkbox"/> Other: ____  |

## **DETAILED ACTION**

### ***Claim Rejections - 35 USC § 102***

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 1, 3-4, and 7-9 are rejected under 35 U.S.C. 102(e) as being anticipated by Yoneda.

Yoneda teaches a nonreciprocal device including: a magnetic plate having wrapped conductors; a common electrode (25) on the bottom; a bias magnet (9); the conductors can be less than .150 mm (e.g. see Col. 9, lines 9-20) (Claim 1); the conductors (21, 22) can be considered nearly parallel since they are at a small angle relative to each other and especially since "nearly" is a broad term (claim 7); each conductor has a slit (Claim 8); matching capacitors and a termination resistor form an isolator (e.g. see Fig. 2) (Claim 9); and the overlap of the conductors is greater than 20% and is shown at around 1/3 of the length of the conductors on the top side (Claims 3-4).

### ***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

5. Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over Yoneda in view of Odashima et al.

Yoneda teaches a nonreciprocal device including that the conductor can be less than .150 mm to increase the inductance per unit length, but does not explicitly teach that the conductor width is between .09 mm and .130 mm.

Odashima et al. teaches that electroconductive lines formed of paste can be between .07 and .15 mm.

It would have been considered obvious to one of ordinary skill in the art to have made the Yoneda electroconductive paste lines in the range of .09 and .13, since Yoneda suggests values less than .15 and Odashima teaches that such electroconductive paste conductors can be made even smaller (i.e. up to .07), and

especially since Yoneda teaches that making the conductors smaller in width provides the advantage of increased inductance per unit length.

6. Claims 5-6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yoneda in view of Enderby et al.

Yoneda teaches a nonreciprocal device as described above.

However, Yoneda does not explicitly teach that the angles of the conductor intersection is equal or less than 30 or 15 degrees (Claims 5 and 6).

Enderby provides the general teaching that the angle of intersection is chosen to provide the level of acceptable bandwidth and attenuation (e.g. see Col. 2, lines 8-19). Also, Fig. 4 shows data points for angles from 0 to 180 degrees (i.e. including angles less than 30 or 15 degrees).

Accordingly, it would have been considered obvious to one of ordinary skill in the art to have modified the Yoneda conductors angle of crossing to have been below 15 or 30 degrees such as shown by Enderby, because it would have been a mere optimization of the device based on the desired/selected attenuation and bandwidth characteristics (as suggested by Enderby).

7. Claims 10, 12-13, and 16-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yoneda in view of Hasegawa (JP2001203507) cited by applicant.

Yoneda teaches a nonreciprocal device as described above and also teaches that the device is used in a communication device.

However, Yoneda does not explicitly teach that a transmitting circuit is connected to the nonreciprocal device and an antenna is connected to the other of the conductors.

Hasegawa provides the general teaching of connecting the conductors of a nonreciprocal device between a transmitting circuit and an antenna (e.g. see Fig. 10).

It would have been considered obvious to one of ordinary skill in the art to have placed the Yoneda nonreciprocal device between a transmitting circuit and an antenna of the communication circuit as taught by Hasegawa, especially since Yoneda teaches using the device in communication circuits and the nonreciprocal device would have provided the advantageous benefit of eliminating reflections toward the transmitting circuit as is conventional.

8. Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over Yoneda and Odashima et al. as applied to claims 1-2 above, and further in view of Hasegawa (JP2001203507) cited by applicant.

Yoneda and Odashima teach a nonreciprocal device as described above and also teaches that the device is used in a communication device.

However, Yoneda/Odashima does not explicitly teach that a transmitting circuit is connected to the nonreciprocal device and an antenna is connected to the other of the conductors.

Hasegawa provides the general teaching of connecting the conductors of a nonreciprocal device between a transmitting circuit and an antenna (e.g. see Fig. 10).

It would have been considered obvious to one of ordinary skill in the art to have placed the Yoneda/Odashima nonreciprocal device between a transmitting circuit and

an antenna of the communication circuit as taught by Hasegawa, especially since Yoneda teaches using the device in communication circuits and the nonreciprocal device would have provided the advantageous benefit of eliminating reflections toward the transmitting circuit as is conventional.

9. Claims 14-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yoneda and Enderby et al. as applied to claims 1, 5, and 6 above, and further in view of Hasegawa (JP2001203507) cited by applicant.

Yoneda and Enderby teach a nonreciprocal device as described above and also teaches that the device is used in a communication device.

However, Yoneda/Enderby does not explicitly teach that a transmitting circuit is connected to the nonreciprocal device and an antenna is connected to the other of the conductors.

Hasegawa provides the general teaching of connecting the conductors of a nonreciprocal device between a transmitting circuit and an antenna (e.g. see Fig. 10).

It would have been considered obvious to one of ordinary skill in the art to have placed the Yoneda/Enderby nonreciprocal device between a transmitting circuit and an antenna of the communication circuit as taught by Hasegawa, especially since Yoneda teaches using the device in communication circuits and the nonreciprocal device would have provided the advantageous benefit of eliminating reflections toward the transmitting circuit as is conventional.

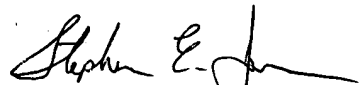
Art Unit: 2817

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Stephen E. Jones whose telephone number is 571-272-1762. The examiner can normally be reached on Monday through Friday from 8 AM to 4 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert J. Pascal can be reached on 571-272-1769. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

SEJ

  
**STEPHEN E. JONES**  
**PRIMARY EXAMINER**